

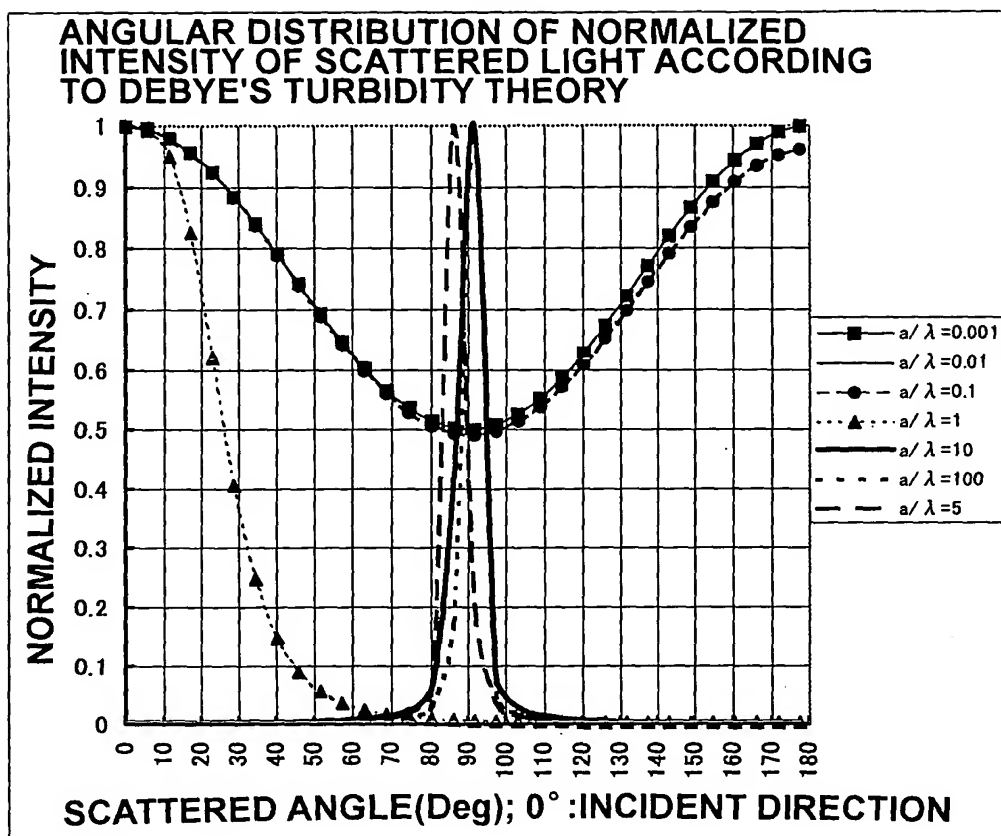
Osamu IWASAKI, et al. Q77279  
LIGHT GUIDE CONTAINING LIGHT-  
SCATTERING PARTICLES ARRANGED TO  
REALIZE DESIRED LIGHT-OUTPUT....

Filing Date: September 3, 2003

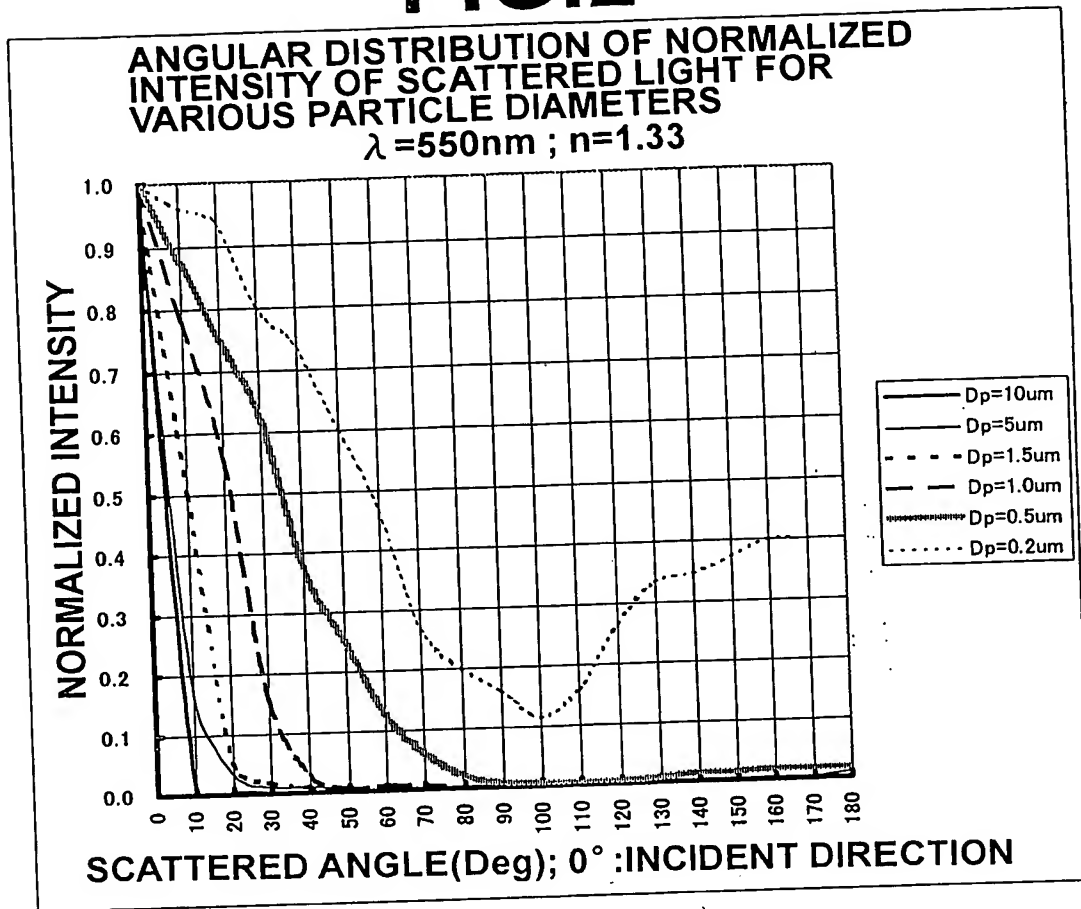
Darryl Mexic 202-293-7060

1 of 30

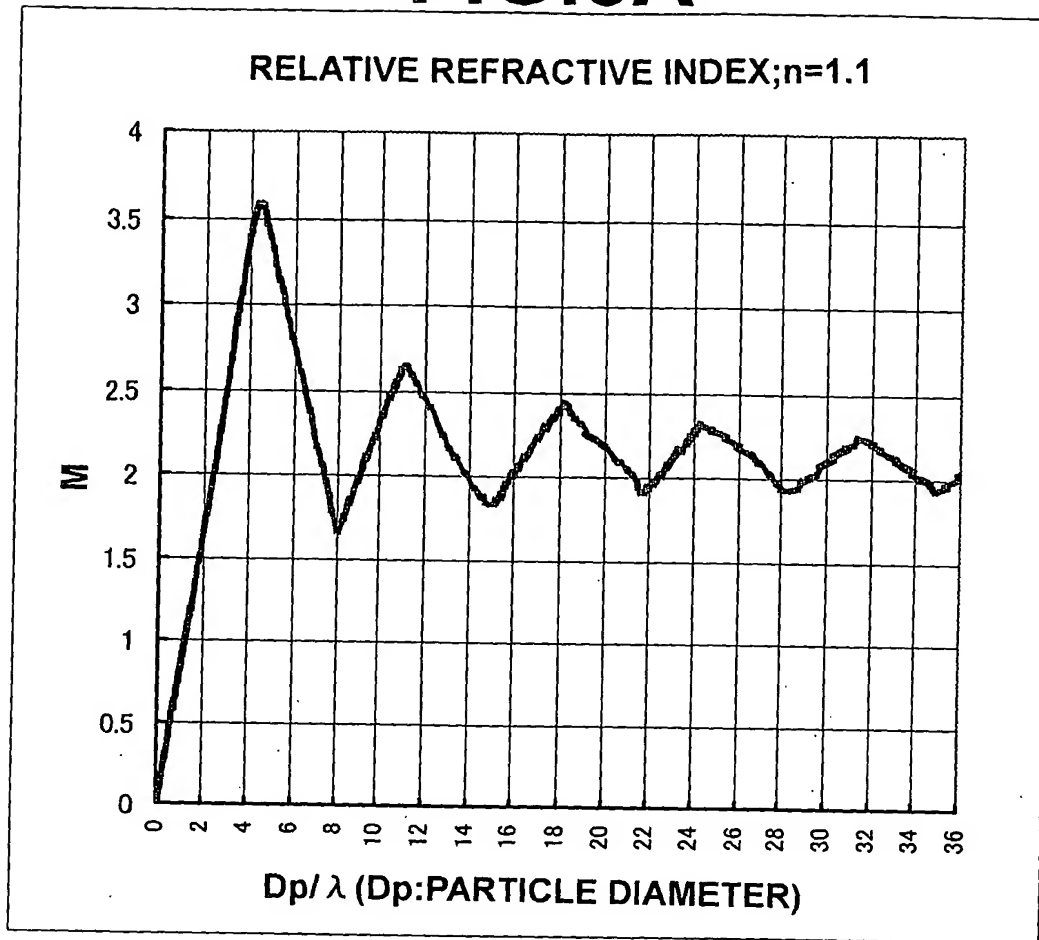
# FIG.1



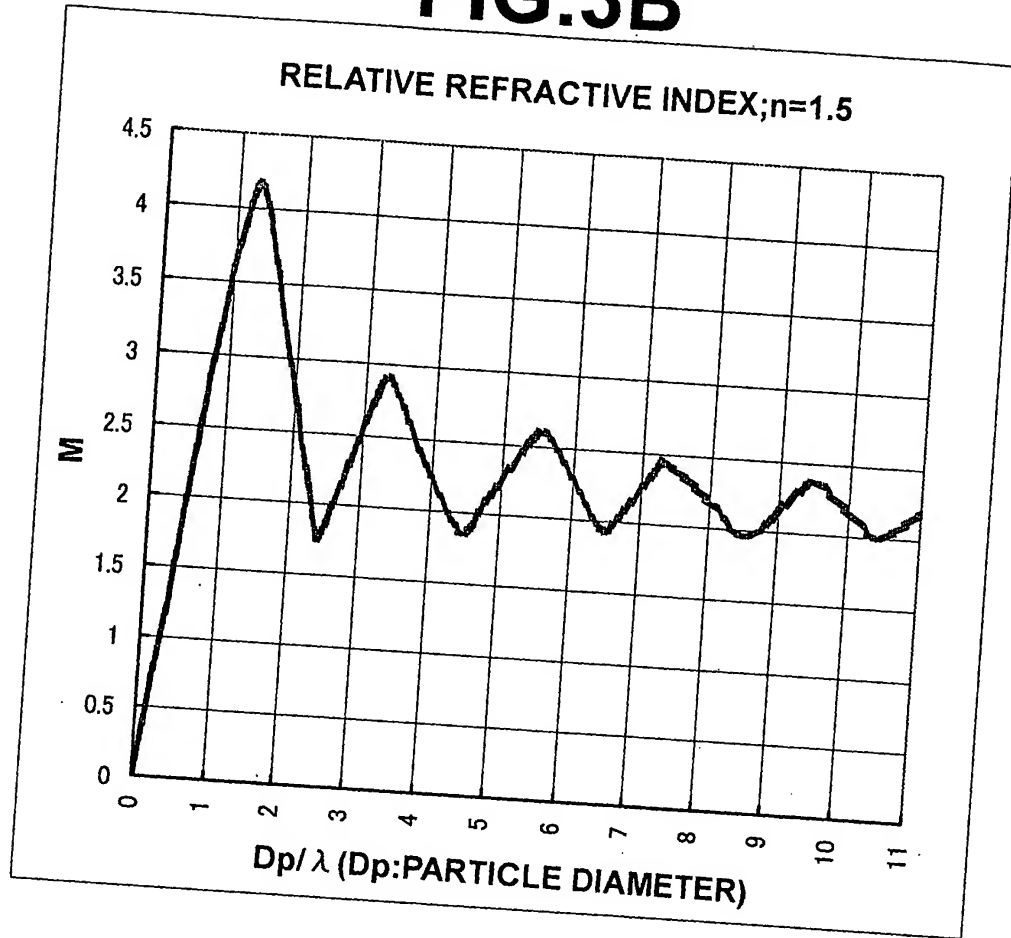
# FIG.2



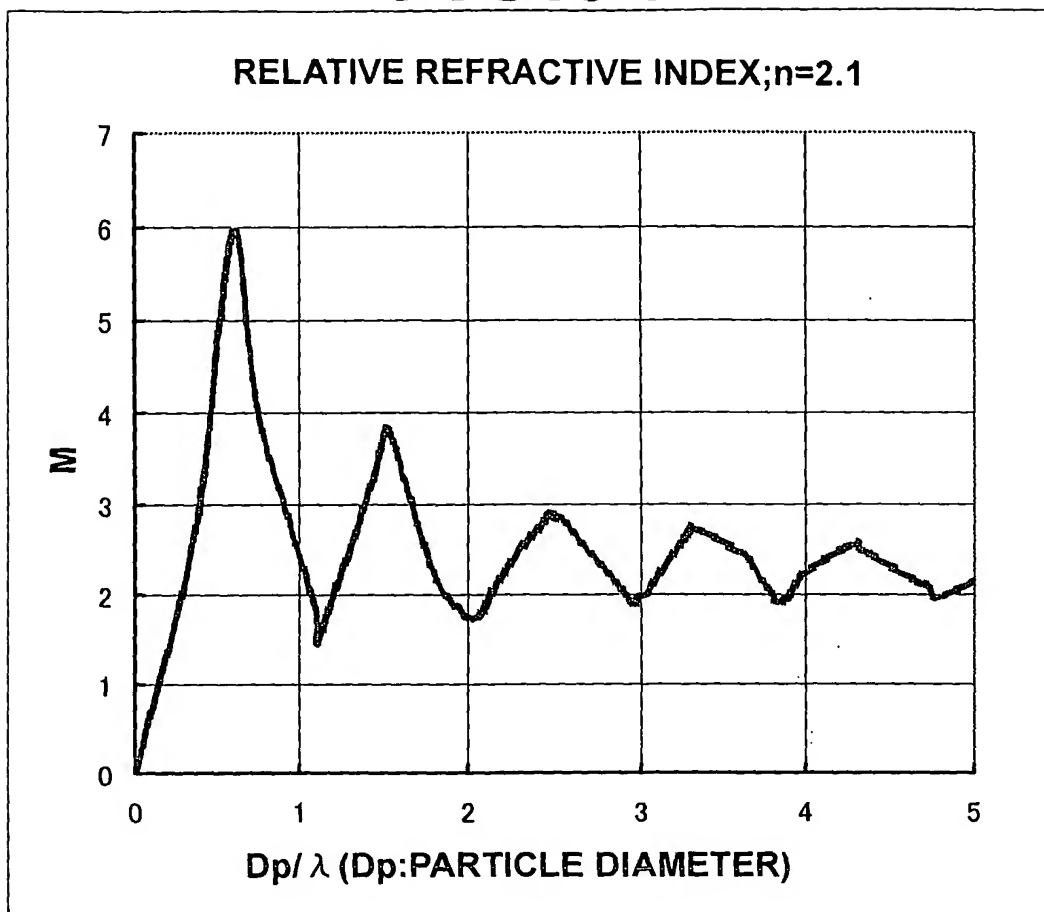
# FIG.3A



# FIG.3B

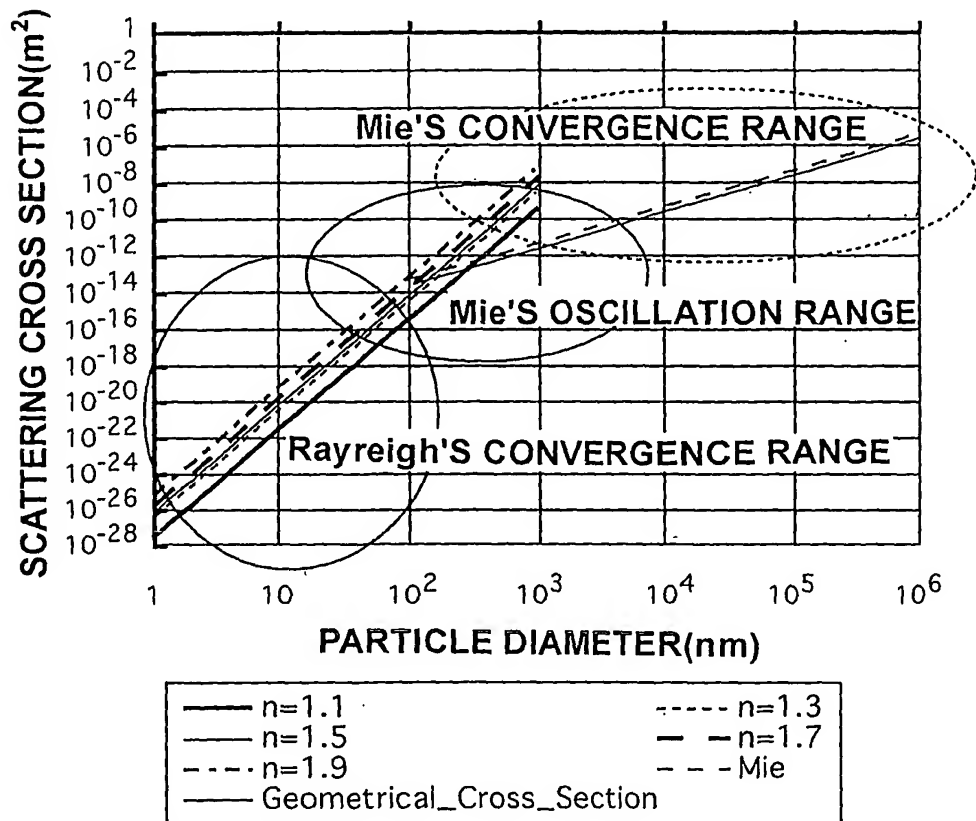


# FIG.3C



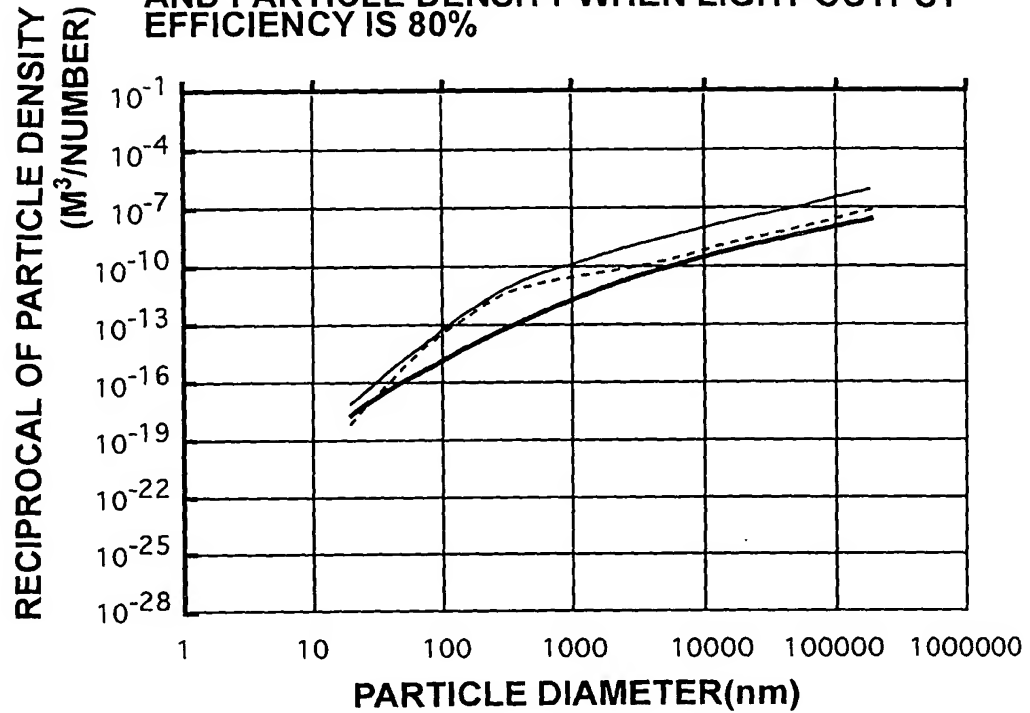
## FIG.4

COMPARISON OF SCATTERING CROSS SECTIONS  
 Rayleigh VS Fresnel(Mie'S CONVERGENCE RANGE)



## FIG.5

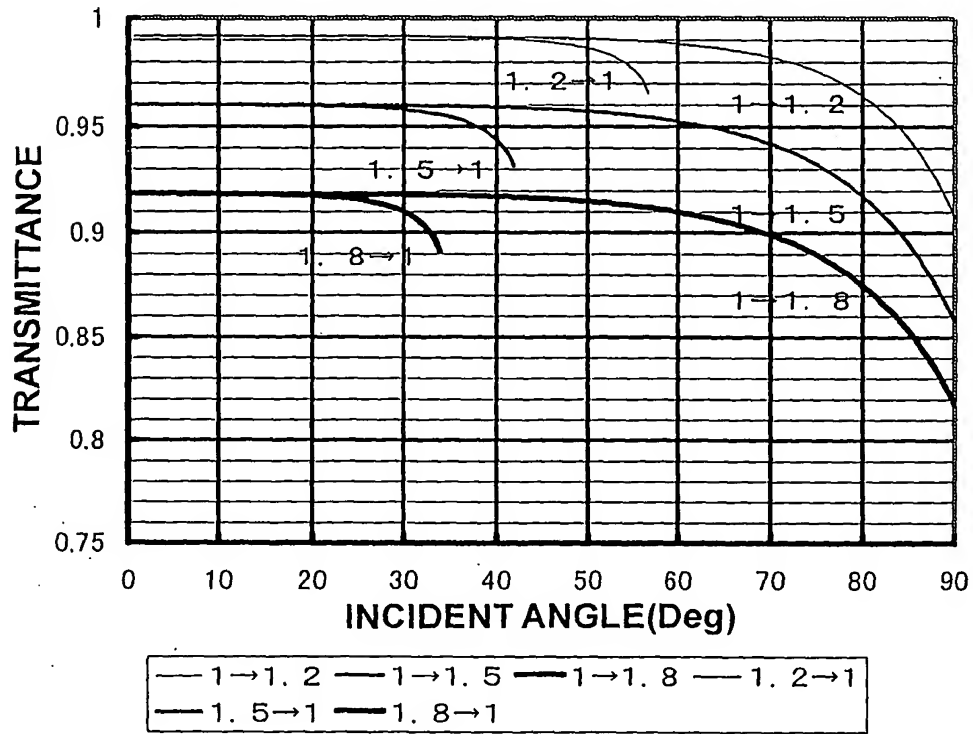
RELATIONSHIP BETWEEN PARTICLE DIAMETER  
AND PARTICLE DENSITY WHEN LIGHT-OUTPUT  
EFFICIENCY IS 80%



— 10mm    - - - 100mm    — 1000mm

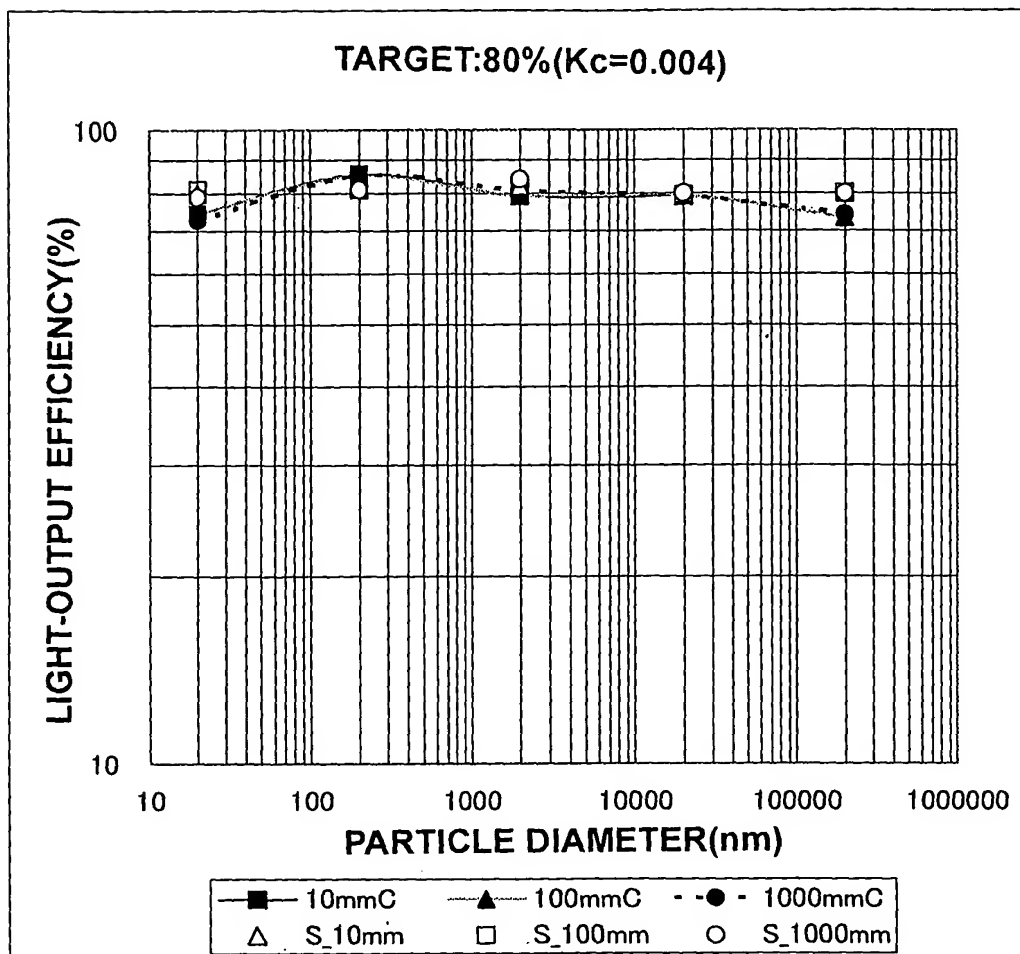
## FIG.6

### FRESNEL LOSS AT BOUNDARIES BETWEEN MEDIUMS HAVING DIFFERENT REFRACTIVE INDEXES

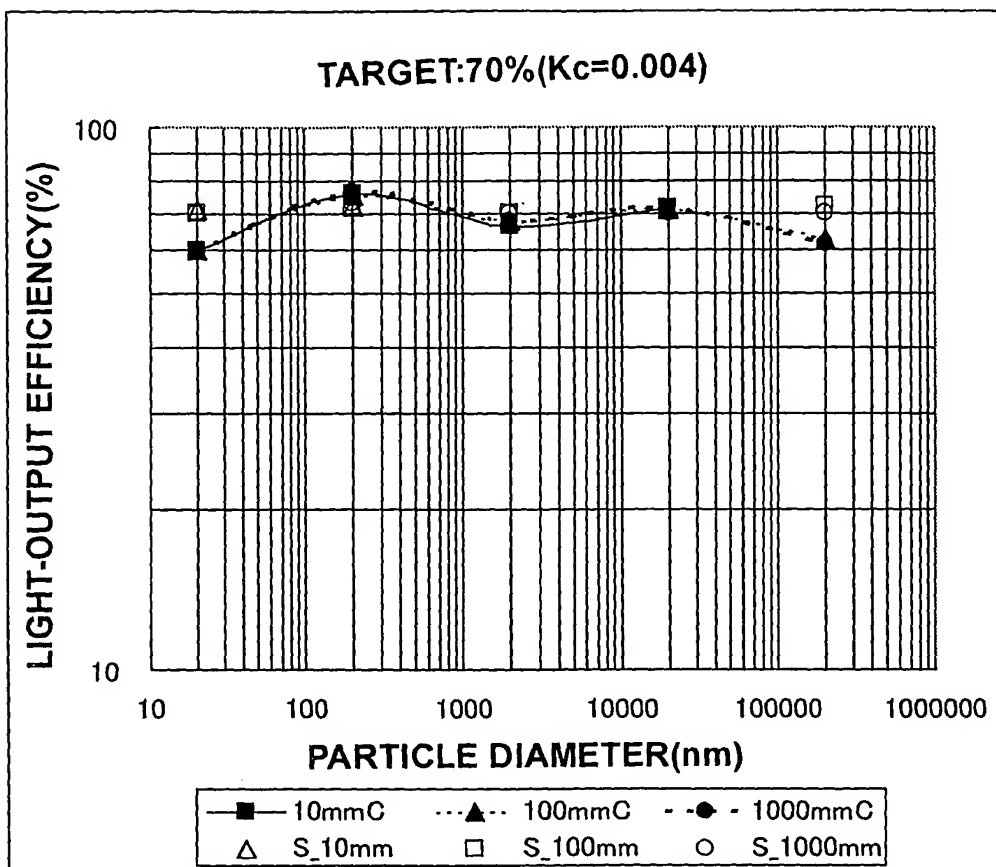




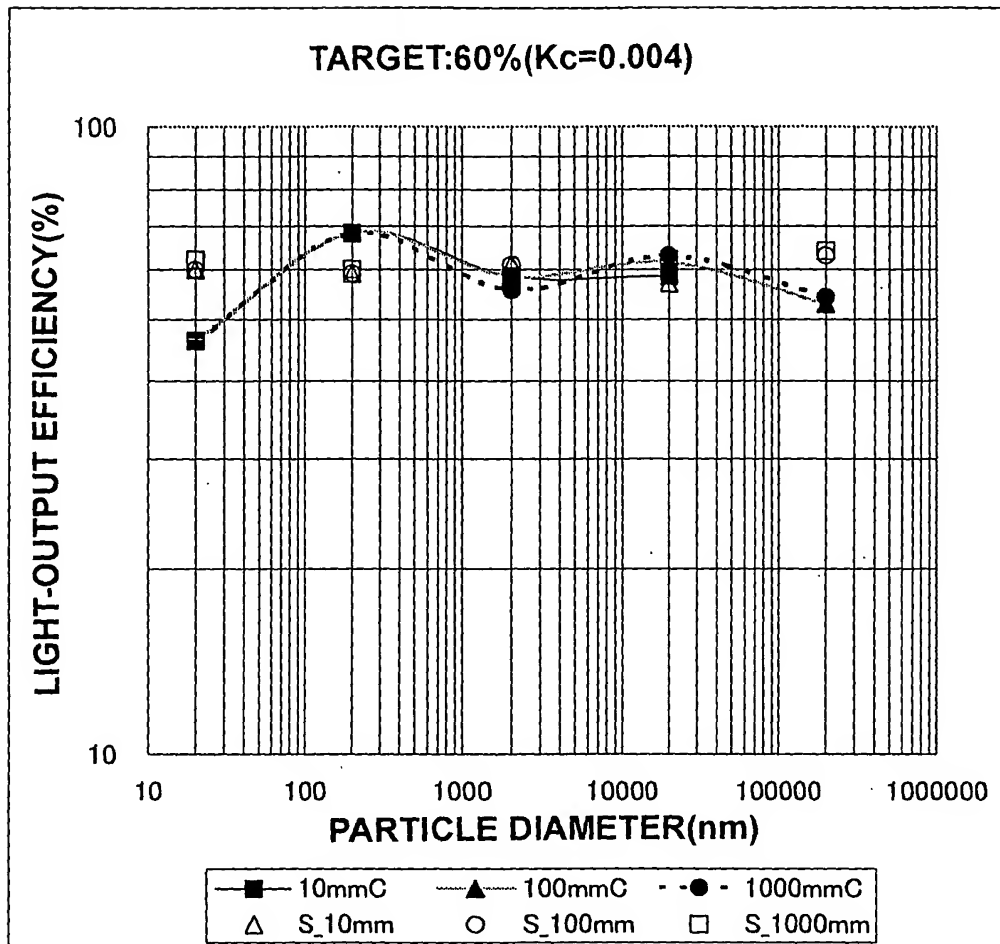
# FIG.7A



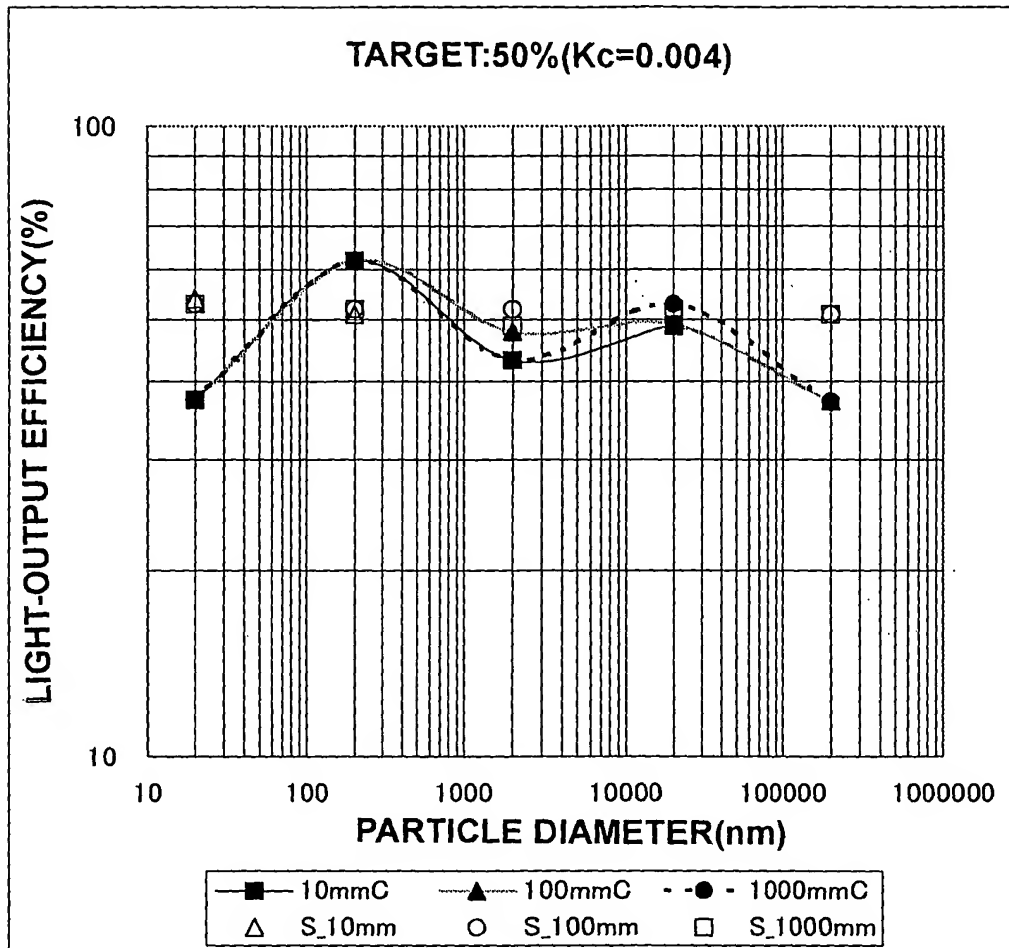
# FIG.7B



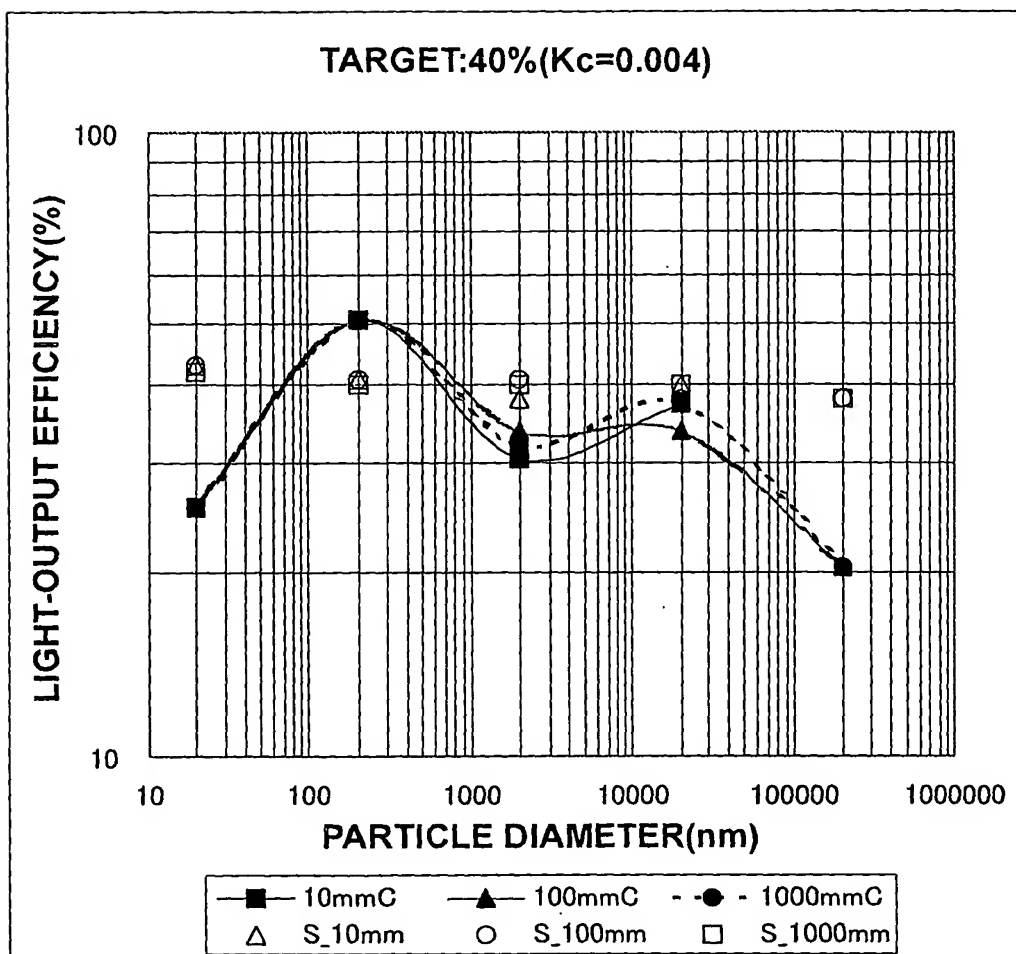
# FIG.7C



# FIG.7D

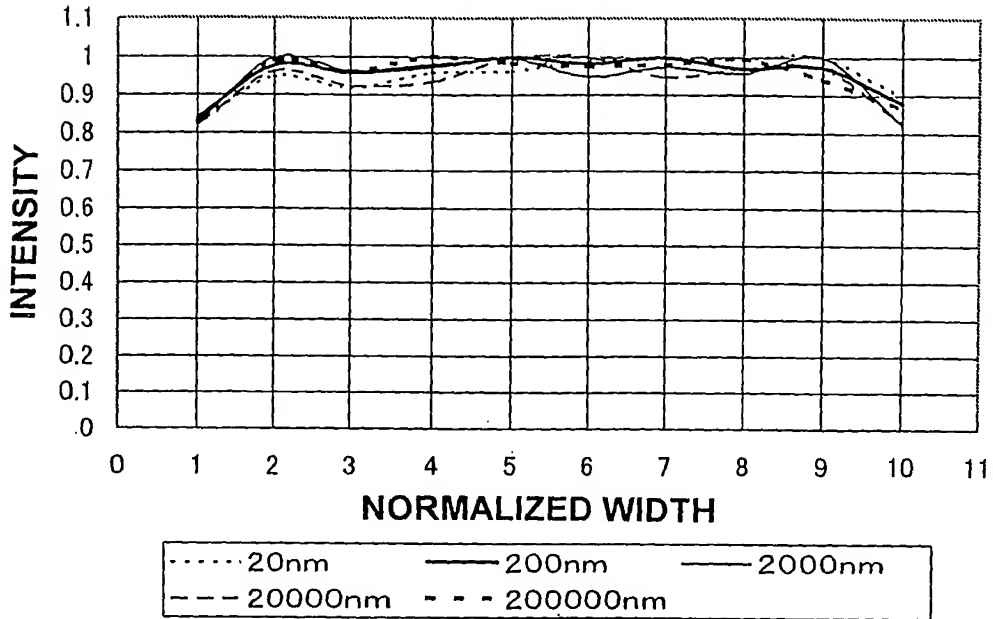


# FIG.7E



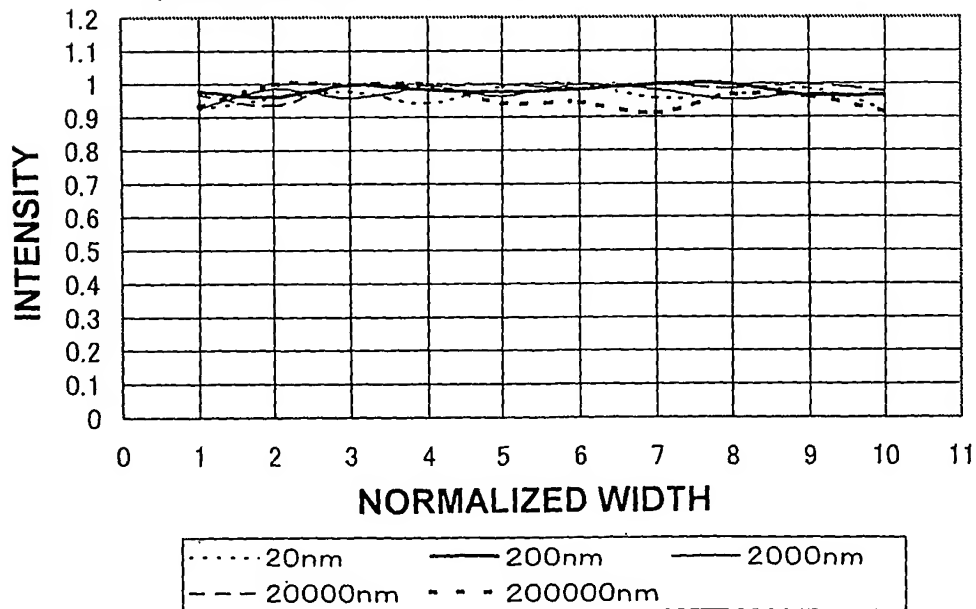
## FIG.8A

INTENSITY DISTRIBUTION OF EMITTED LIGHT  
(SMALL-SIZE SHEET)



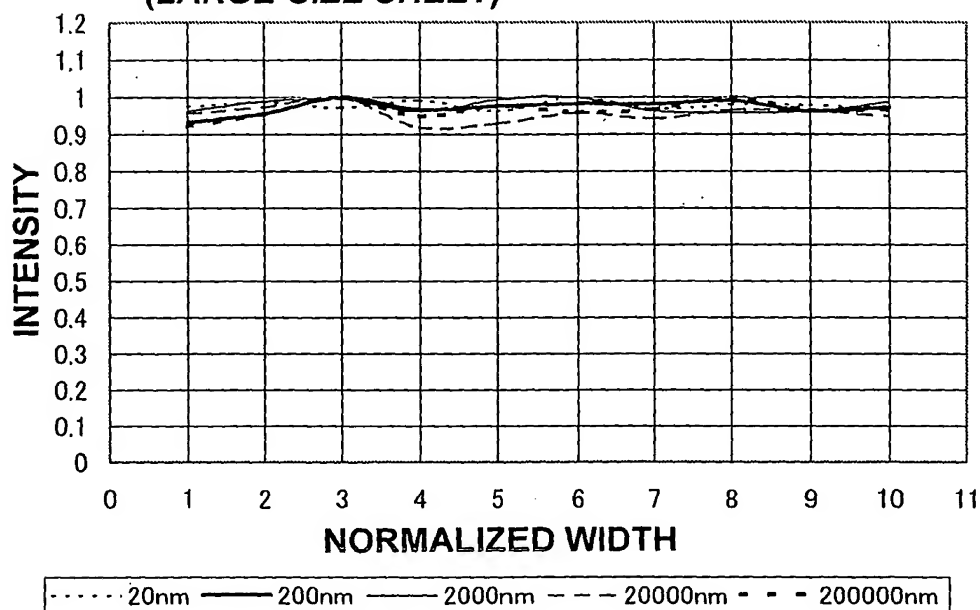
## FIG.8B

INTENSITY DISTRIBUTION OF EMITTED LIGHT  
(MEDIUM-SIZE SHEET)



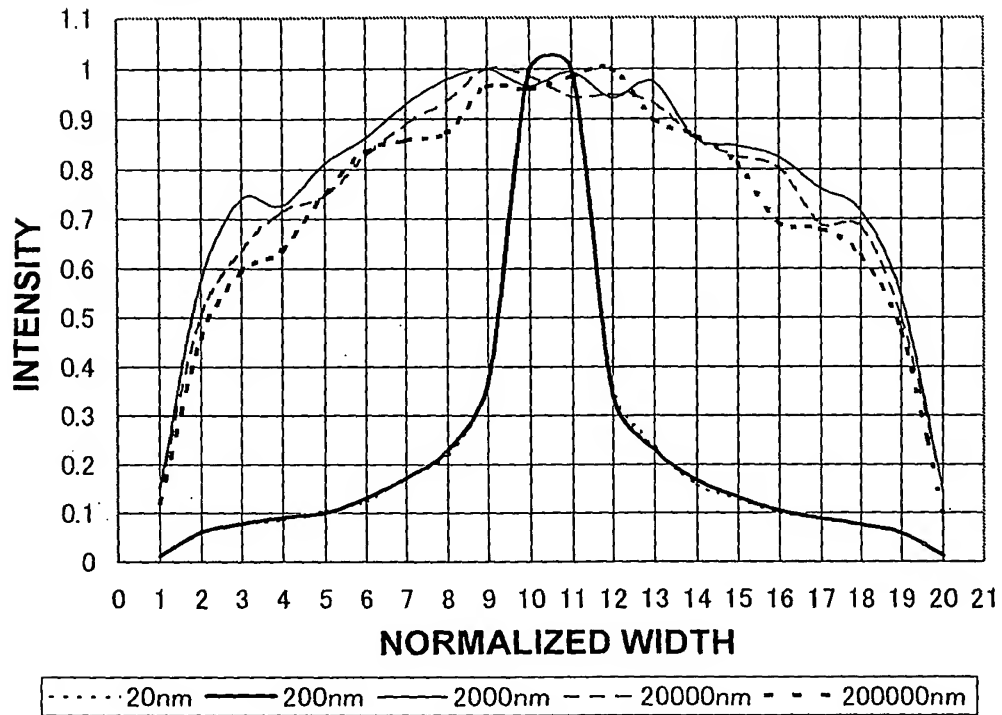
## FIG.8C

INTENSITY DISTRIBUTION OF EMITTED LIGHT  
(LARGE-SIZE SHEET)



## FIG.9A

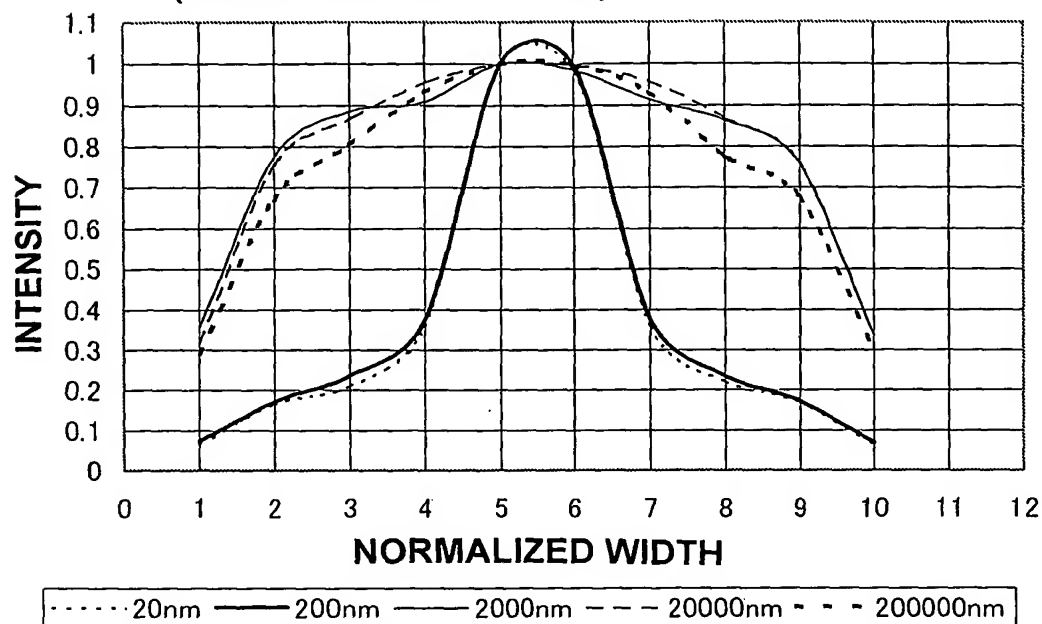
INTENSITY DISTRIBUTION OF EMITTED LIGHT  
(SMALL-SIZE CYLINDER)





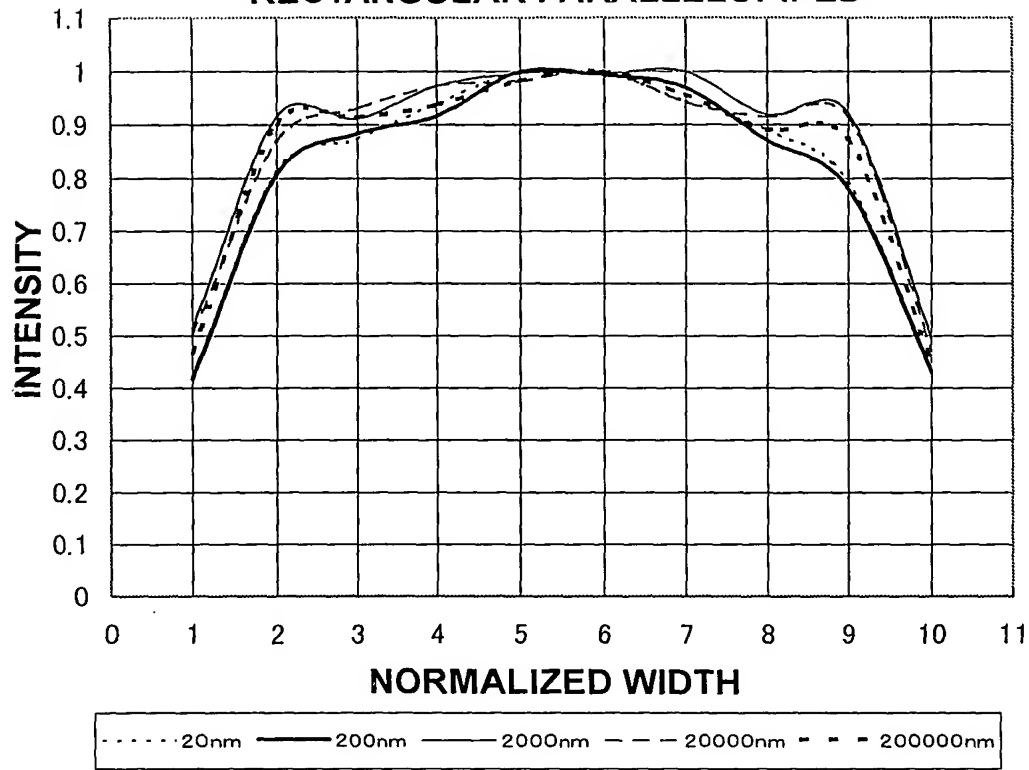
## FIG.9B

INTENSITY DISTRIBUTION OF EMITTED LIGHT  
(LARGE-SIZE CYLINDER)

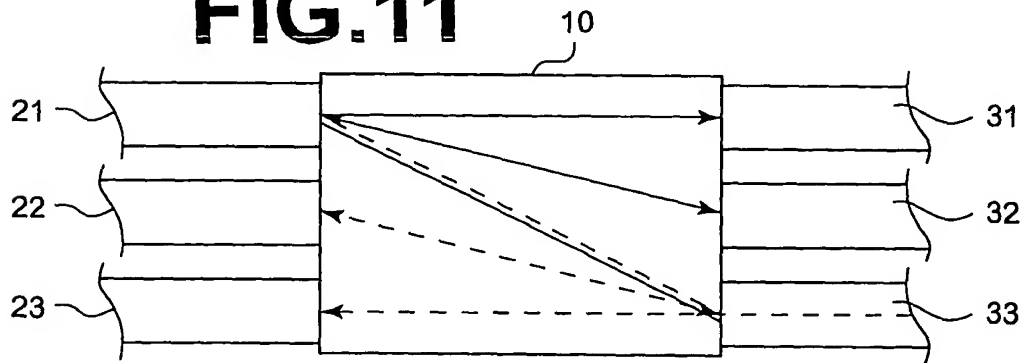


# FIG.10

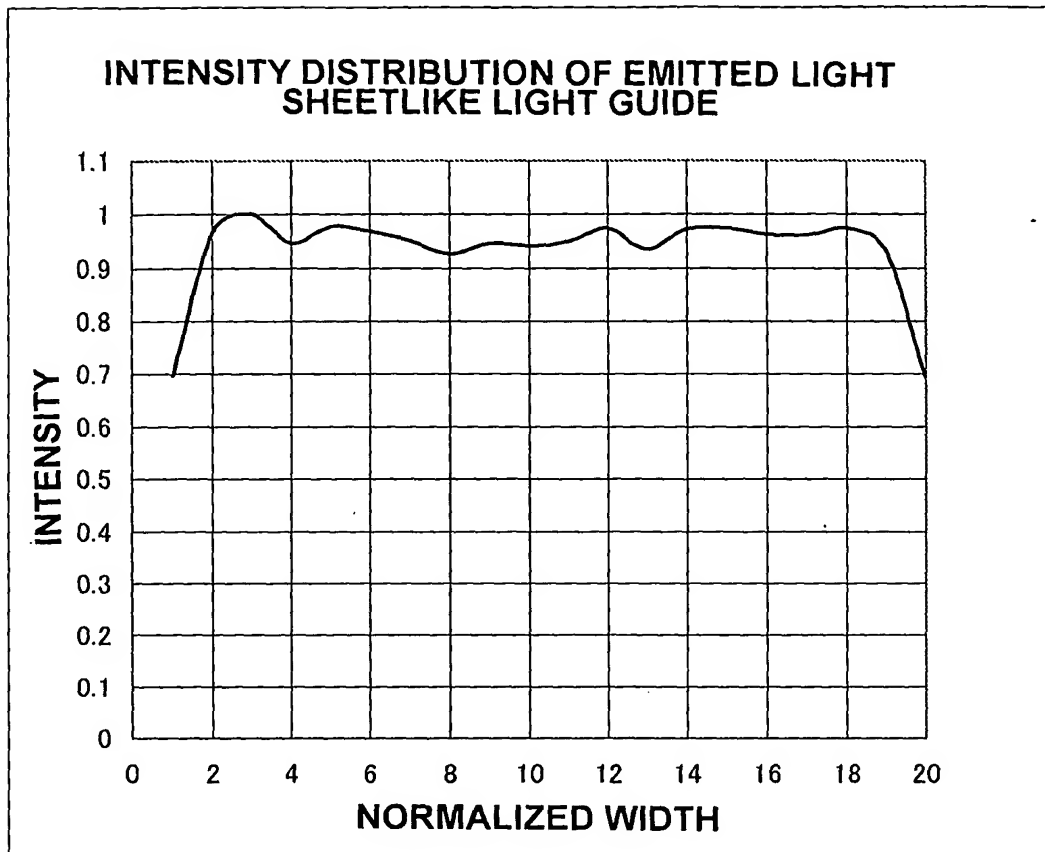
INTENSITY DISTRIBUTION OF  
 EMITTED LIGHT(CENTRAL PORTION)  
 RECTANGULAR PARALLELOPIPED



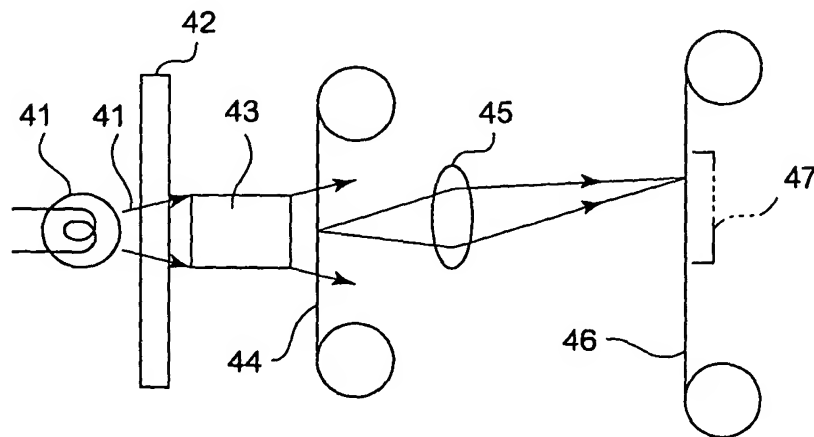
# FIG.11



# FIG.12



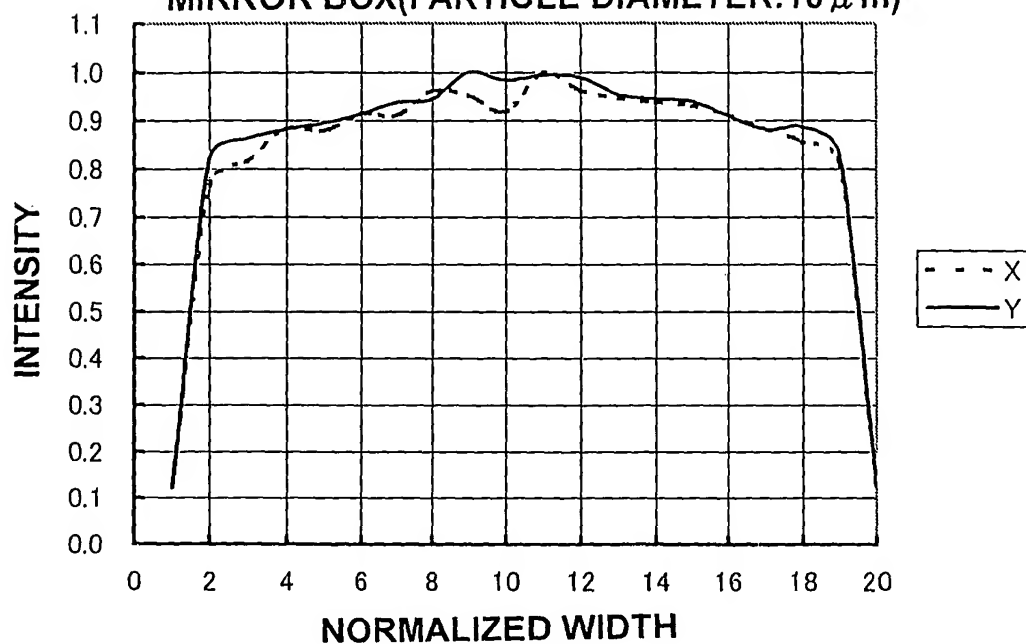
# FIG.13



# FIG.14A

INTENSITY DISTRIBUTION OF EMITTED LIGHT  
 (CENTRAL PORTION)

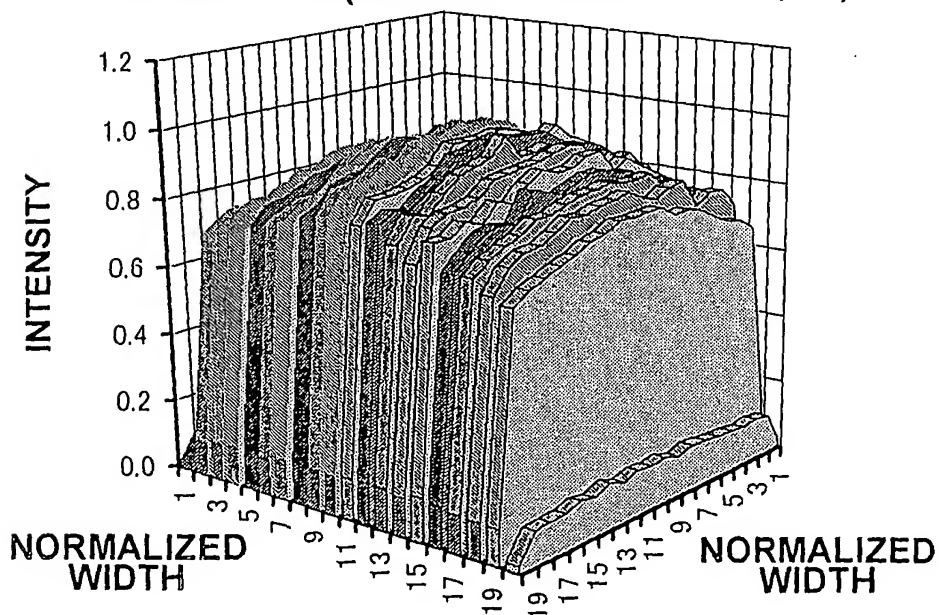
MIRROR BOX(PARTICLE DIAMETER:10  $\mu$  m)



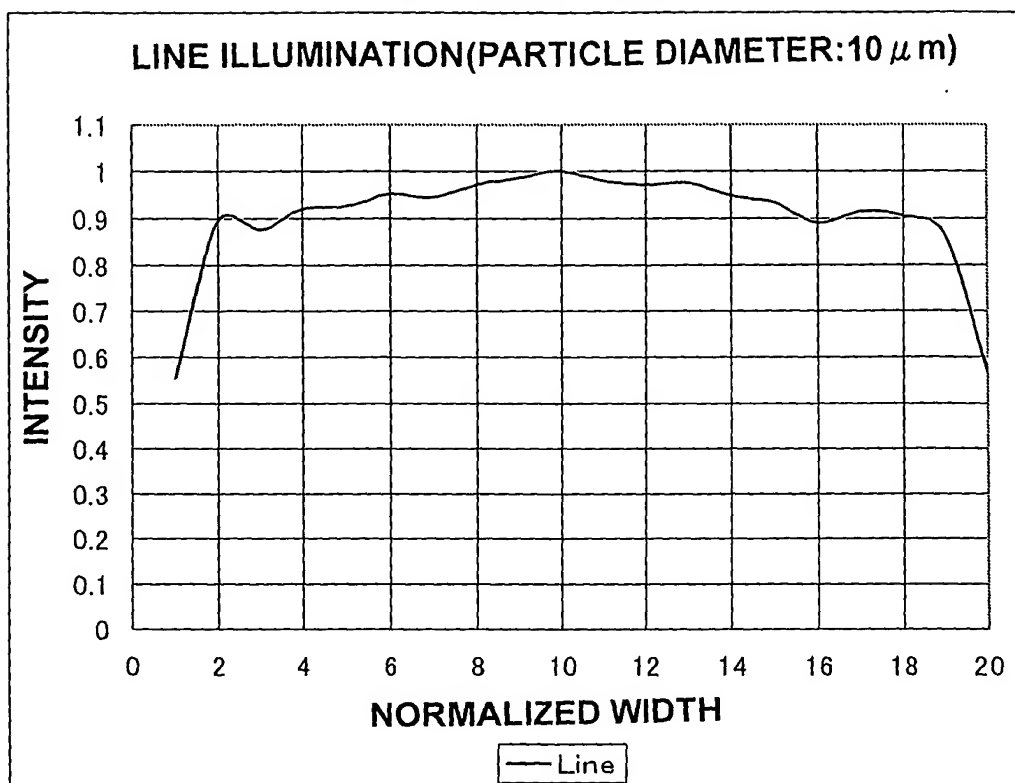
# FIG.14B

3-DIMENSIONAL INTENSITY DISTRIBUTION  
 OF EMITTED LIGHT

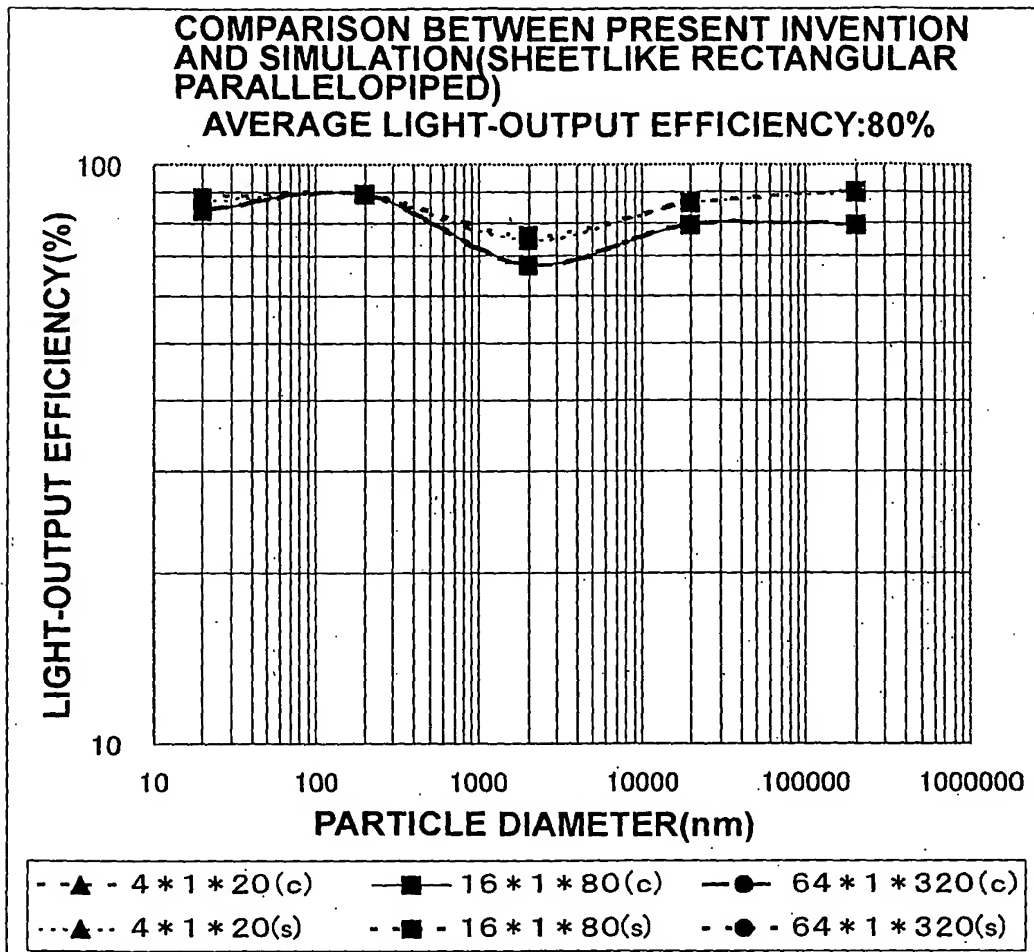
MIRROR BOX(PARTICLE DIAMETER:10  $\mu$  m)



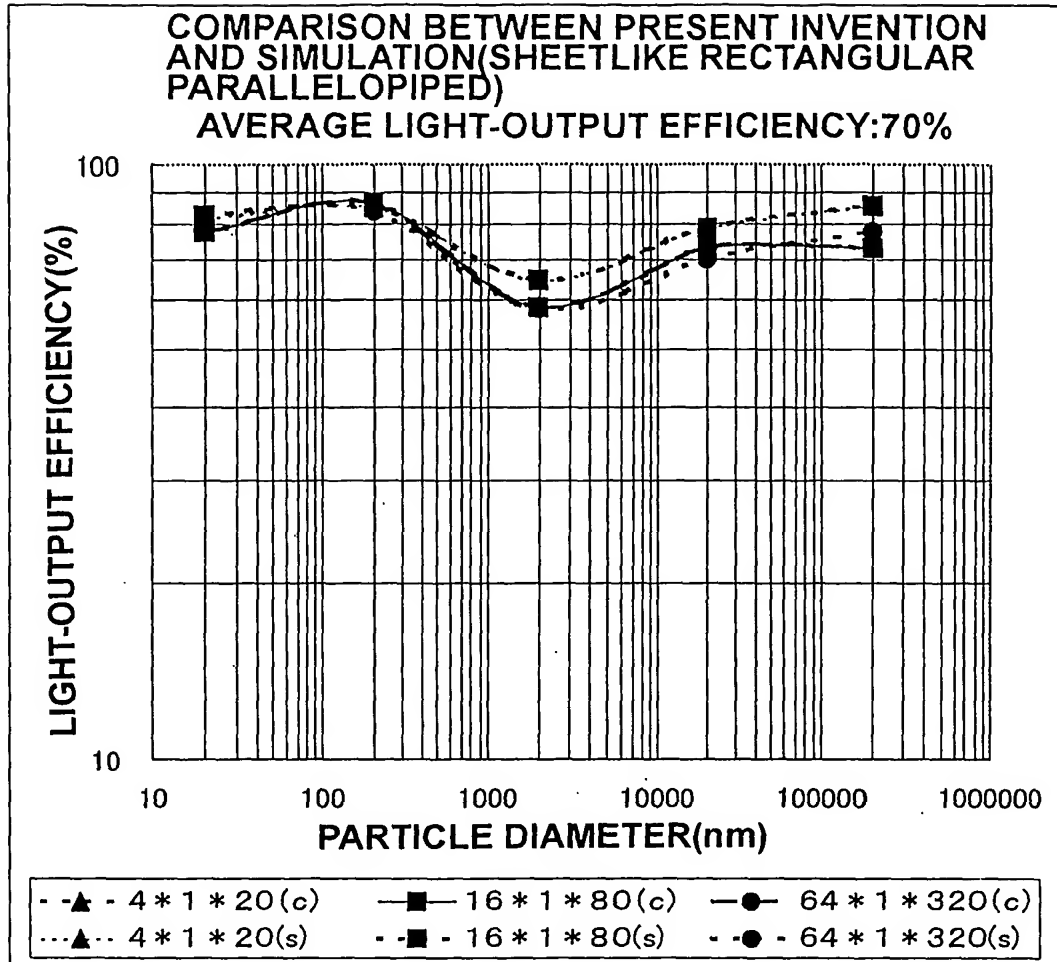
# FIG.15



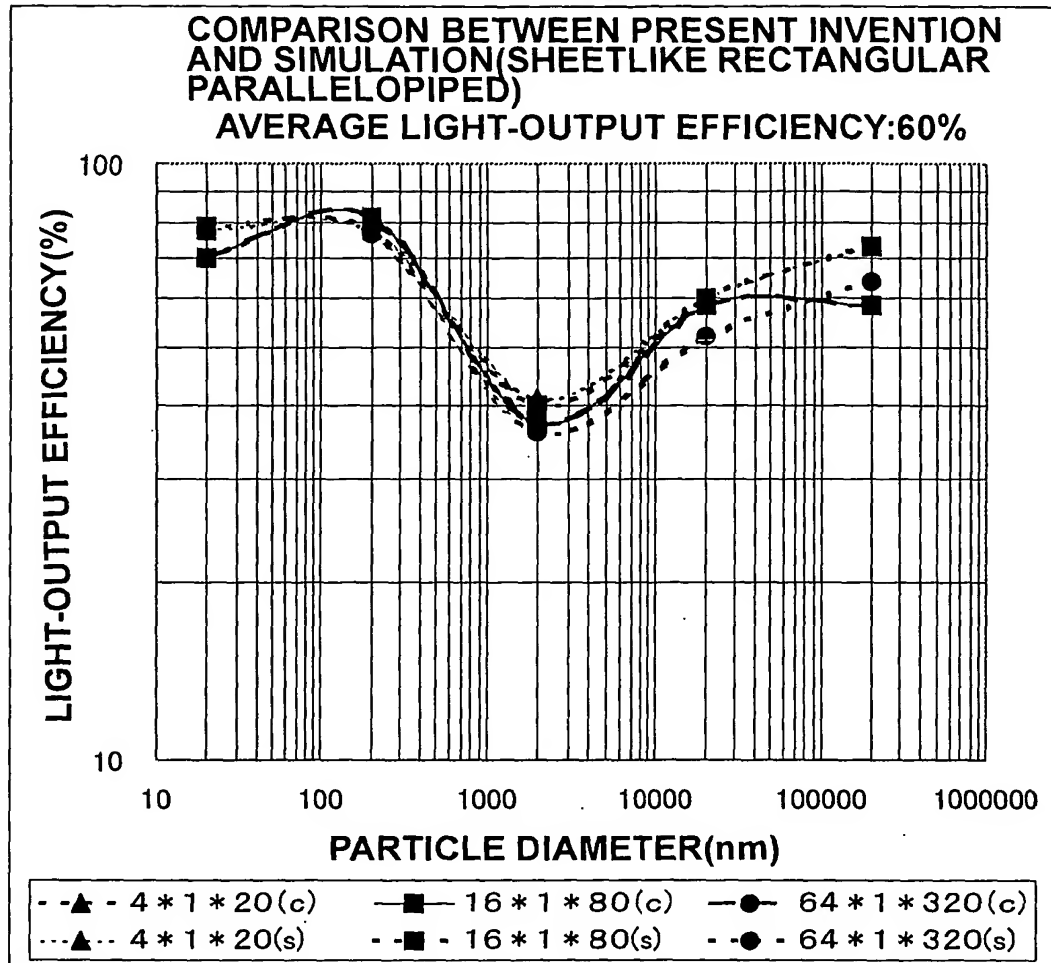
# FIG.16A



## FIG.16B

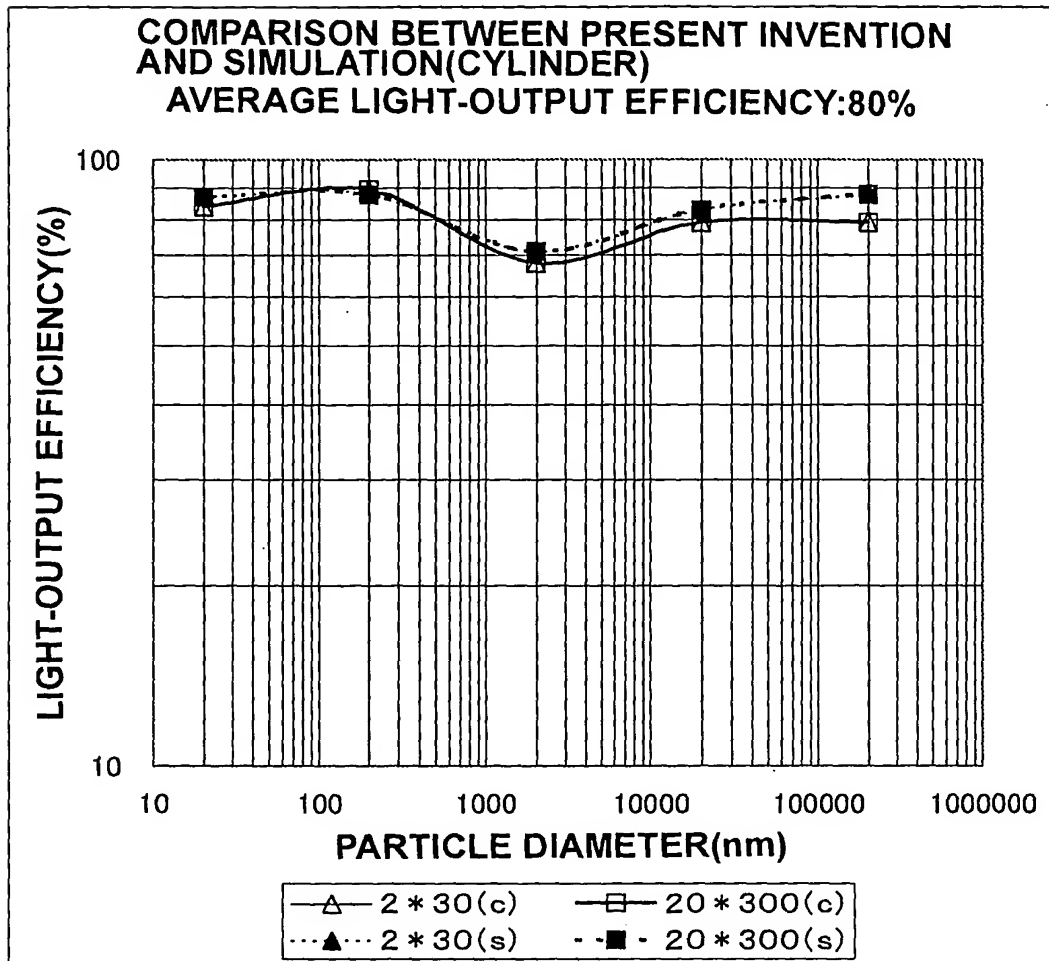


# FIG.16C

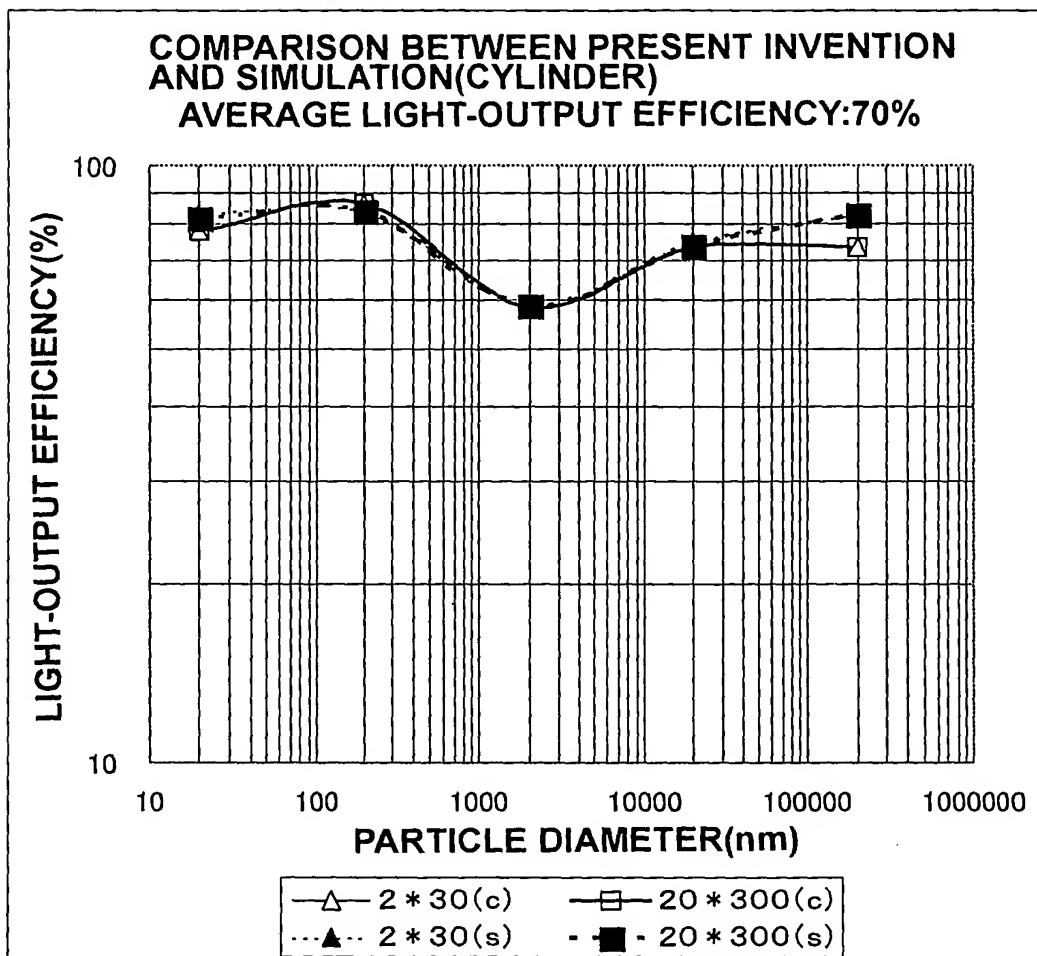




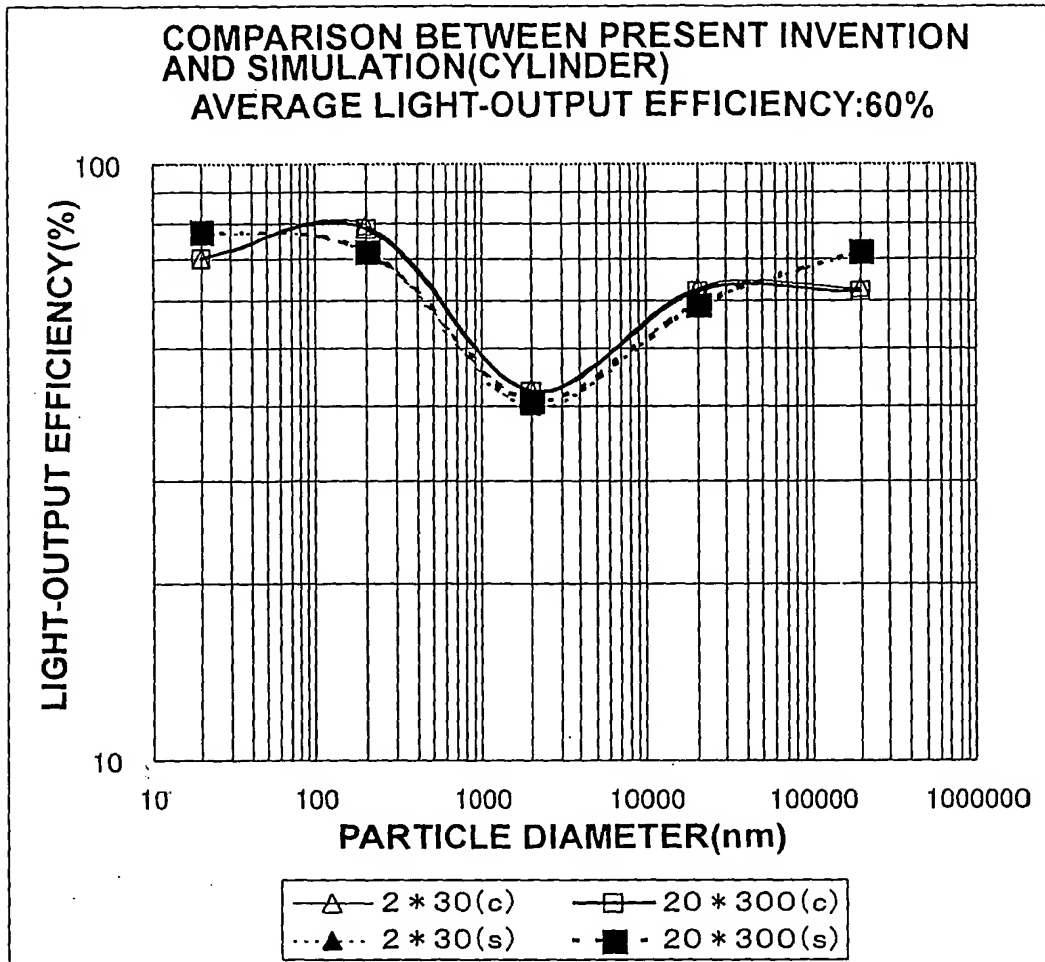
## FIG.16D



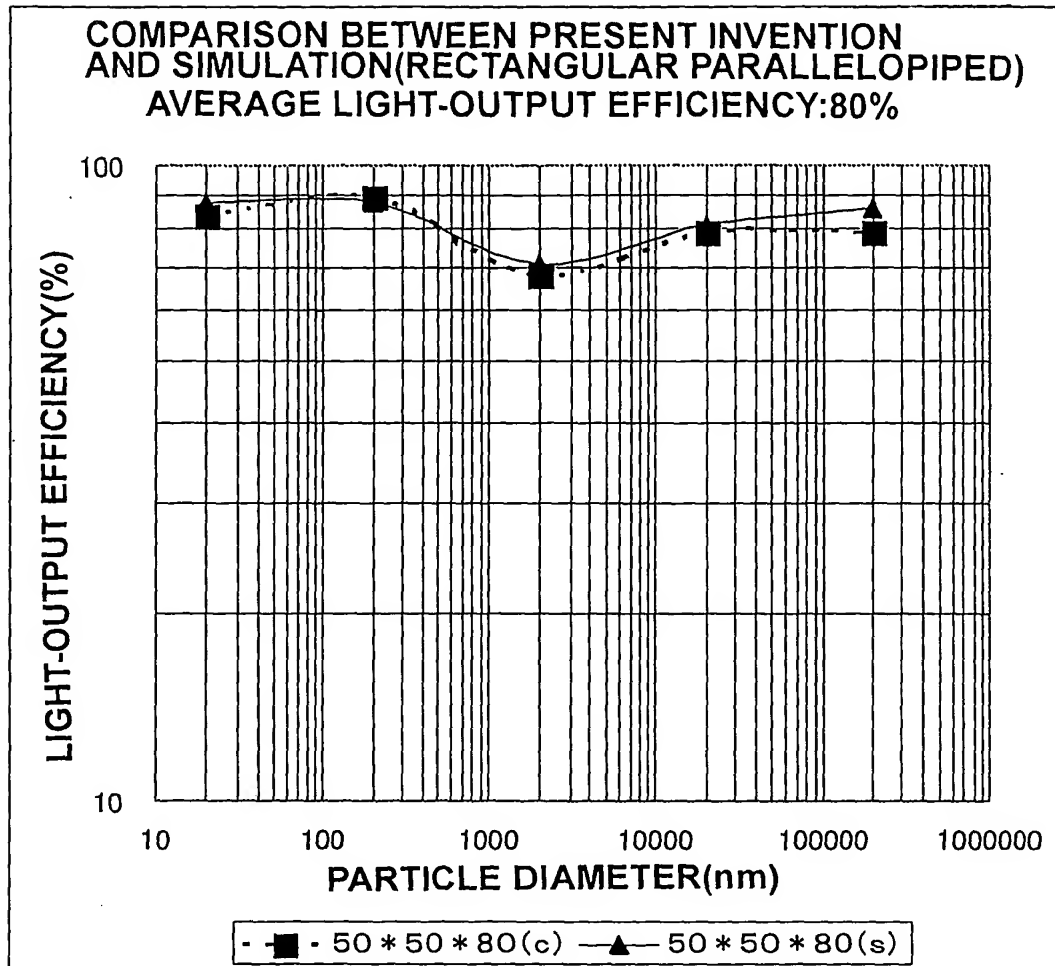
## FIG.16E



## FIG.16F

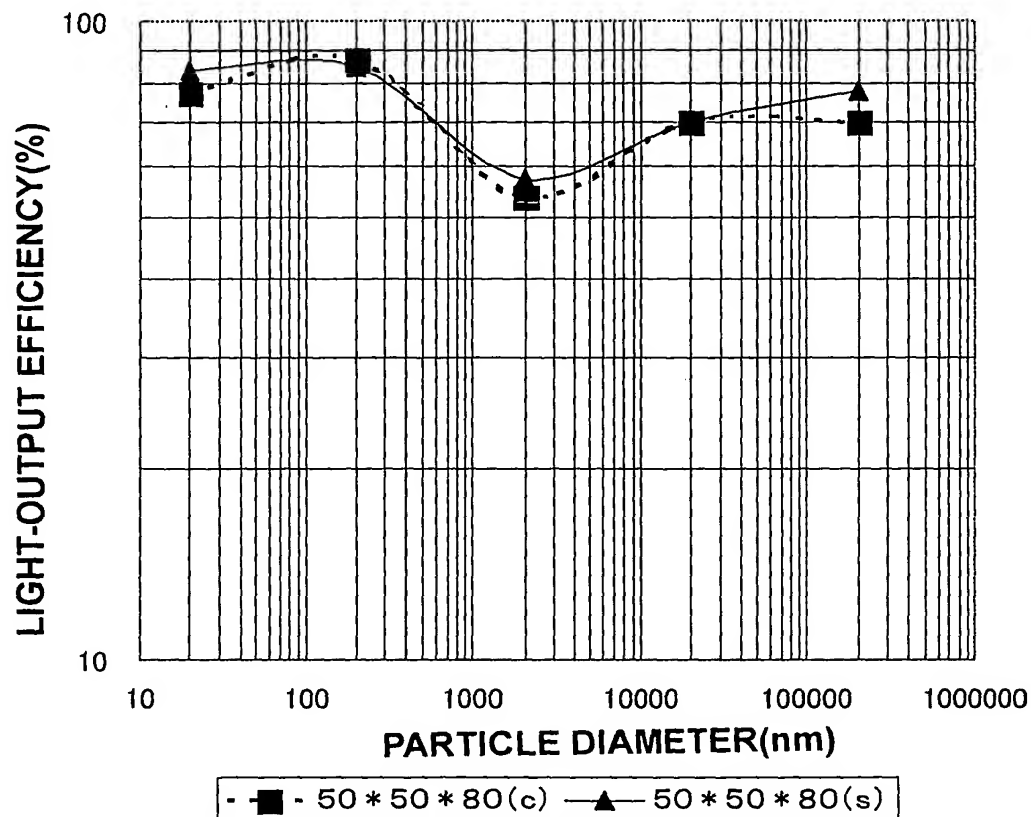


## FIG.16G



## FIG.16H

COMPARISON BETWEEN PRESENT INVENTION  
AND SIMULATION(RECTANGULAR PARALLELOPIPED)  
AVERAGE LIGHT-OUTPUT EFFICIENCY:70%



# FIG.16I

